(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 8 July 2004 (08.07.2004)

PCT

(10) International Publication Number WO 2004/057629 A3

(51) International Patent Classification⁷: H02K 15/08, H01F 5/02

H01F 41/08,

(21) International Application Number:

PCT/NZ2003/000274

(22) International Filing Date:

12 December 2003 (12.12.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

523324

20 December 2002 (20.12.2002) NZ

- (71) Applicant (for all designated States except US): WELLINGTON DRIVE TECHNOLOGIES LTD [NZ/NZ]; 13 William Pickering Drive, North Harbour, 1311 AUCKLAND (NZ).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): JAKSIC, Drazen [NZ/NZ]; 20 Cotter Avenue, Remuera, 1005 AUCKLAND (NZ). HOWELL, David, James [NZ/NZ]; 14/31 St Benedicts St, Newton, 1001 AUCKLAND (NZ).
- (74) Agent: PIPERS PATENT AND TRADE MARK ATTORNEYS; P.O. Box 5298, 18 Byron Avenue, Takapuna, Auckland (NZ).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,

KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

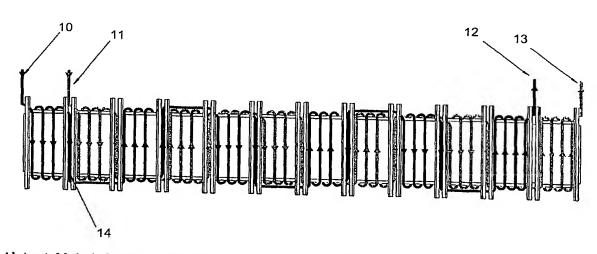
as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

Published:

with international search report

[Continued on next page]

(54) Title: ELECTRODYNAMIC MACHINE



(57) Abstract: Method of winding a toroidally wound electrodynamic machine comprising; (a) locating a set of bobbins in a linear array (b) winding with a continuous wire or a continuous set of parallel wires for each phase the corresponding bobbins in the linear array (c) forming the wound bobbins into a circular array. An electrodynamic machine formed by the above method.

O 2004/057629 A3 |||||||||

WO 2004/057629 A3



(88) Date of publication of the international search report: 12 August 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

			PC1/NZ2003/000272	ŀ					
A.	CLASSIFICATION OF SUBJECT MATTER								
Int. Cl. ?:	H01F 41/08, H02K 15/08, H01F 5/02								
According to International Patent Classification (IPC) or to both national classification and IPC									
В.	FIELDS SEARCHED								
Please see el	mentation searched (classification system followed by lectronic data base consulted	•							
	searched other than minimum documentation to the ex	•	•						
Electronic data DWPI: H021 rectilinear	base consulted during the international search (name of K 15/-, H01F 41/02, H01F 41/08, H01F 3/02,	f data base and, where practicable, sea bobbin, spindle, former, torou	arch terms used) s, toroidal, array, linear	,					
c.	DOCUMENTS CONSIDERED TO BE RELEVAN	Т							
Category*	Citation of document, with indication, where ap		vant to n No.						
Y	EP 0178851 A2 (KUHLMAN CORPORAT entire document	ΓΙΟΝ) 23 April 1986	1-	11					
P,Y	Patent Abstracts of Japan 2003-070216 A () abstract		11.						
Y	US 4462016 A (BLAND et al) 24 July 1984 abstract		. 1-	11					
X Fu	urther documents are listed in the continuation	n of Box C X See pat	ent family annex						
"A" documen which is relevance earlier ap after the "L" documen claim(s) opublication reason (a documen exhibition documen date but I	pplication or patent but published on or "X" dinternational filing date "Y" diversity or which is cited to establish the condate of another citation or other special as specified) at referring to an oral disclosure, use, on or other means at published prior to the international filing later than the priority date claimed	ater document published after the inte- ind not in conflict with the application or theory underlying the invention locument of particular relevance; the considered novel or cannot be consider when the document is taken alone ocument of particular relevance; the considered to involve an inventive step with one or more other such documents person skilled in the art ocument member of the same patent for	claimed invention cannot be red to involve an inventive soldimed invention cannot be when the document is comb s, such combination being ob	orinciple tep					
Date of the actual 21 May 2004	ol completion of the international search	Date of mailing of the international							
	g address of the ISA/AU	Authorized officer	2 7 MAY 20	104					
PO BOX 200, W	PATENT OFFICE ODEN ACT 2606, AUSTRALIA oct@ipaustralia.gov.au 02) 6285 3929	MÁNO RAMACHANDRA Telephone No : (02) 6283 2166							

INTERNATIONAL SEARCH REPORT

International application No.

PCT/NZ2003/000274

PCT/NZ2003/000274					
C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT					
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.			
	Patent Abstracts of Japan JP 07-283067 A (HATAOKA NOBUYOSHI)				
Y	27 October 1995 abstract.	1-11			
		1-11			
•	US 5583475 A (RAHOLIJAONA et al) 10 December 1996				
Y	entire document	1-11			
	ED 0199005 A1 /EAST DOCK TECHNIQUE OCK DIO) 22 X 1 1005				
Y	EP 0188095 A1 (EAST ROCK TECHNOLOGY INC) 23 July 1986 abstract	1-11			
	·				
•					
		}			
		•			

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/NZ2003/00=0274

This Annex lists the known "A" publication level patent family members relating to the patent documents. cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

	nt Document Cited in Search Report			Pate	ent Family Member		
EP	0178851	AU	27389/88	AU	48731/85	BR	8505145
		CN	85109646	DK	473085	JP.	61097811
		US	4665952	US	4683919	US	4741 484
		US	4896839				
JР	2003070216						
US	4462016	US	4662572				
JP	07283067				· · · · · · · · · · · · · · · · · · ·		
US	5583475	CA	2142565	EP	0668596	FR	2716291
		JР	8037123				
EP	0188095	AU	51214/85	CN	85109520	ЛР	61185911
		US	4782582				

Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.

END OF ANNEX